



FISHWATCH MALDIVES

Objective

To set up a nationwide underwater monitoring scheme for reef fish that will provide data of use for managers – e.g. enable setting of quotas or establishment of Marine Protected Areas. In addition to enhance people’s understanding and appreciation of the Maldives reefs and the benefits of conservation action.

Questions to answer

- What is the distribution of fishery targeted species in the Maldives (widespread, restricted, specific habitats etc)?
- What is the population density of targeted species and are there differences in density between protected and open (fished) areas?
- Do some species have a naturally low abundance, regardless of whether they are being fished?
- Is fishing having any impact on fish size distribution (in over-exploited fisheries there are often few large individuals remaining)?

How best to get the answers?

- UVC well known method. Challenge is to record fish within a given area so that density per m², 100m² of hectare can be calculated.
- Using a tape is most accurate but time consuming and not easy to deploy (e.g. on steep faces). Plus not all dive centres have tapes.
- Timed swims are a reasonable option. Calibrate by first doing ‘slow census swims’ along a set distance (e.g. 50m or 100m) to find average time taken.
- This time then = 100m and the tape itself can be dispensed with.

BUT variables can lead to inaccuracies!

- Clarity of water
- Skill of recorder
- Density of fish
- Mobility of fish
- Ecology of fish e.g. cryptic
- Behaviour of fish



How to improve accuracy?

- Ensure that there are not too many species on the target list.
- This means that the diver can progress at an 'average slow speed', keeping moving all the time.
- Split the target species into ecological and behavioural as well as family groups.
- Provide visual aids – for Fishwatch Maldives we have developed illustrated check lists.

Fishwatch Maldives - which species?

- Often indicator species are selected for study, but it is not always easy to decide which these should be if little is known about them in the first place.
- Fishwatch Maldives provides an opportunity to start on a 'long list' of species. Indicator species may then be selected later.
- One pair of divers can select or be asked to record a specific group (e.g. open water species, small cryptic species, butterflyfish). Other pairs do other groups and in this way the entire list is covered.

Fishwatch Maldives - which sites?

- We are looking for wide coverage and different depths within sectors e.g. reef top – 3m; 3 - 6m; 6 - 10m; 10 – 20m; 20m +.
- Also different reef types.
- Plus fished and unfished areas.
- The site position must be recorded, but apart from that there are no restrictions – but if there are areas where information is lacking then we may request surveys to fill them.
- Frequency of surveys is flexible. Single surveys or repeat monitoring are both useful.